

# AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint  
"Agricolae." . . . VIRG.

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## AGRICULTURE.

TRANSACTIONS OF THE

### Agricultural Society

OF NEW CASTLE COUNTY, IN DELAWARE.

S. H. BLACK'S MEMOIR.

[Continued from Vol. II, page 18.]

As soon as our experimenter has collected his corn and potatoes in the fall, he cuts off carefully the stocks, which he removes to his yard as a future source of manure. The following spring, after having put out all his winter manure, he sows oats two bushels to the acre; and at harvest, has, say two hundred and thirty bushels. At the first of October, he having in August broke up his oats stubble, ploughs again his ground, after laying out his summer manure, and sows one and a half bushels of wheat to each acre; and the following March red clover and timothy seed, in the proportion of three of the former, to one of the latter. And at harvest, if the season would have allowed him by his former mode of farming, when wheat had been sown upon oats stubble, without lime, admitting the same quantity of manure, fifty bushels of wheat, he now has certainly one hundred and ten bushels. Immediately after harvest, he sows equally over his young grass ten bushels of ground gypsum\* and keeps all stocks carefully from treading

\* There exists great diversity of opinion amongst farmers with respect to the *modus operandi* of the substance. That, in some situations it powerfully promotes the growth of certain vegetables, especially red clover, is put beyond all dispute; but whether this is effected by the gypsum being taken up as a food for plants; whether it acts as a mere attractor of atmospheric moisture; or whether by its stimulating properties, is yet involved in much doubt, and uncertainty.

The first opinion which gained pretty general credit on this subject, was, that the plaster of Paris acted only by attracting moisture from the surrounding air, and the practice of sprinkling the substance on the tops, or leaves of vegetables, seems to have been founded on this opinion.

It has been said, however, by some late analysis of vegetables, which had been exposed previously to the action of this substance, that it was found within the plants. If so, it must produce its effects as a manure, and when thrown on the leaves in this case, it cannot act until it has found its way to the surrounding earth, and been taken up by the absorbents of the plants.

By some recent experiments which I myself have made, and which are strongly corroborated by similar trials made by an honourable and ingenious member of this society, Mr. Gray, and lately mentioned to me, it would appear that this is really the method by which the gypsum produces its effects; and that it is much better applied directly to the soil.

A quantity of plaster, say two bushels to the acre was thrown carefully over the land prepared for Indian corn. On this crop it showed little, or no influence, nor was its effect seen upon the crop of oats and wheat which followed in succession; but on the clover sown upon the wheat, and which was the fourth crop from the reception of gypsum, it produced its full power. (1) The growth of the grass in this instance was much more luxuriant than that on which the plaster was sown in the common way as a top dressing. Several experiments of a similar nature, were followed by like results. It re-

on it until the following spring, when choosing a proper time, he coats again with a similar quantity of plaster of Paris, and in the course of this summer takes off ten tons of hay; and as he has but the one lot, and designs to progress with his course of improvements, without interruption, he pastures his ground until November.

The debt contracted for lime, is now however, due; and after deducting his usual crops, we will examine his ability to pay it, from his surplus.

Clear gain on, Corn crop	30 b.	at 75	\$22 50
Potatoes	500	- - 40	200 00
Oats	80	- - 50	40 00
Wheat	60	- - 200	120 00
Hay	10 tons	20 00	200 00
			\$582 50

Contra. Principal due for lime	\$200 00
Interest for four years	48 00
	248 00

Admit for extra seed and labour 1-6; ?	
nett surplus	97 00
	345 00
	\$237 50

It would be impossible, by any train of reasoning, to prove that this additional quantity of produce can actually be taken from a poor soil, by the simple mode of cultivation here mentioned, aided by a single coat of fifty bushels of lime to each acre. It requires, either, that the farmer shall try the experiment, or that he rely on the assurance of those who have done so.—Aware that my single testimony to this point would be insufficient for those who are sceptics upon this subject, I would refer such to others, who have fairly tried, and carefully calculated the effects of lime: there are happily several of these in our own county; and on them I am willing to risque a corroboration of my statements. To resume, however, the subject.

quires, however, further time and more experiments to settle completely this question. And that it should be fully understood, is of no little importance to agriculturists.

That gypsum will not often act beneficially in the neighbourhood of rivers or the ocean has been considered a singular phenomena, its explanation however, does not appear difficult. Gypsum is a compound, and not a simple substance. It is a combination of sulphuric acid, and lime, or a sulphate of lime; and before it can produce any good effect upon plants, it must meet with some property in the soil to which it is applied to decompose, and render it active. Many such properties exist in soils. As, for instance, 1, nitrate of potash; 2, nitrate of Soda; 3, muriate of Soda, or common salt; 4, carbonate of Soda, &c. &c. By a combination with many of these substances, properties are disengaged which promote the growth of vegetables. This will not happen, however, when gypsum comes in contact with common salt. Here a double decomposition happens; the sulphuric acid of the gypsum forming with the Soda of the salt, a Glauber salt—whilst the muriatic acid, with the lime forms a muriate of lime. And, as neither of these substances promotes the growth of plants, it must be obvious, that the plaster of Paris applied to a soil impregnated with common salt will remain inactive.—And this is the case frequently with lands in the neighbourhood of the ocean, or salt water rivers or lakes.

Our experimenter A. having thus in his first attempt succeeded, even beyond his most sanguine hopes; becomes more bold in his efforts. He abandons at once, all his old prejudices, and reaches eagerly after the golden prize, which he now views as certainly within his grasp. He returns to his friend, and obtains a new loan of four hundred dollars, for the same period, and on the same terms as before. He purchases one thousand bushels of lime, lays it on his clover sod in the fall, and breaks the whole up eight inches deep; the following spring he flushes his ground again the same depth, harrows flat, and crosses out as formerly, with this difference only, that from a great increase of straw, stalks, and hay, he finds himself now in possession of manure sufficient to fill his corn, as well as his potato rows; this he does, and narrows the distance between his grains of corn to nine inches. In other respects he tills his ground as before, and in the fall receives corn two hundred and eighty, and potatoes seven hundred and fifty bushels.

All potato stalks, corn stalks, &c. he carefully removes to his barn yard, which together with his usual manure, enables him the next season to cover his ground with this substance; he sows his oats at the rate of two and a half bushels to the acre; and at harvest pretty certainly cuts three hundred and fifty bushels.\* He sows his wheat two bushels of seed per acre, after having added all summer manure; and the following spring grass seed, as before; and is additionally enabled to give the whole a good top dressing with his winter manure. His wheat crop this year can hardly fall below nineteen bushels per acre, or one hundred and ninety bushels from his whole ground; and the subsequent year after again top-coating his ground with his winter manure he as certainly receives fifteen tons of hay. His account will then stand thus:

Clear proceeds from first experiments	\$237 50
Nett gain, on proceeds of last crops.	
Corn, 150 at 75	112 50
Potatoes, 250 " 40	100 00
Oats, 120 " 50	60 00
Wheat, 80 " 2 00	160 00
Hay, 5 tons 20 00	100 00
	4769 00

Contra. Principal for lime	400 00
Interest 4 years,	96 00
Admit for extra expenses and labour ?	90 00
one sixth nett gain, say	
	4186 00
	4183 50

A—, has now gotten his land equal to a second rate soil, and at the end of eight years, instead of his improvements having cost him any thing, he finds himself actually indebted to his land to the amount of \$183 50: and from the immense increase of its proceeds he feels sure of arriving by the most rapid

\* Throughout this Essay I have mentioned oats as one of the farmers' crops. It may be well to suggest that this has been done more to conform to the habits of farmers, and practice of the neighbourhood, than from any belief that I have of oats being either a profitable crop, or but a slight exhauster of land. Barley would doubtless be better if substituted in the place of oats. An acre of first or even second-rate soil will produce more barley than oats: and the price of the former is generally double that of the latter. The straw is moreover better as a food for cattle: and the soil is as little injured by the one as the other.

(1) For a theory of gypsum, see the Farmer, February 10th, 1820—and page 338.



gradations to the utmost point of all his hopes. He borrows no more money—his land requires no more lime—the vegetation upon it is luxuriant: from his stalks, straw and hay he is enabled by judicious management to make large quantities of prime manure; this he uses to the best advantage. He runs his plough during the four following years, at the breaking up of his ground previous to the reception of each crop, twelve inches deep; the roots of his grain and grass are thereby enabled to extend themselves freely: too much, or too little rain does him no considerable injury. He flushes his ground in the fall, and the grub disappears, or if any remain, or chance to cut off a stalk of his young corn, the depth, and strength of his soil throws it up again immediately. If Hessian fly should cut part of his wheat, a new growth still produces an abundant crop. The insect producing stunt, has been destroyed in embryo, in his beds of compost. And at the expiration of his third course of crops, which cannot well be less than a nett gain from his last course:—

From his last course, of

Corn,	220 b. at 00 75	\$165 00
Potatoes,	250 - 00 40	100 00
Oats,	250 - 00 50	125 00
Wheat,	160 - 2 00	320 00
Hay,	5 tons 20 00	100 00

3) \$810 00

Contra. Admit for extra labour, &c. one third \$ 270 00

540 00

Nett grain from former crops - 183 50

\$723 50

Our experimenter has then, in a period of twelve years, gained nearly one hundred dollars on each acre of his land; instead of having expended, as is the generally received opinion, double that sum by its improvement. And what is vastly more important, he has gotten a first rate soil, which will annually thenceforward, as long as he pleases, yield him clear of all cost, the nett interest of five hundred dollars per acre.

I know that public sentiment, or private opinion may, and reasoning *a priori*, probably will condemn my whole system, and deny the correctness of my calculations. I fear only, the sweeping declaration,

"I know a lot of 10 acres of land, (2) in Cecil County, Maryland, owned and tilled by Adam Whann, Esquire, which has been in wheat four successive years, and which it has been said by gentlemen of unquestionable veracity, has, during that term, fully averaged 400 bushels yearly. Some seasons the product has been above, and some a little below that quantity. This lot is now (1st of May 1819,) in wheat, I believe, for the fifth year, without interruption, or change of crop, and it is asserted by those acquainted with the subject, looks better than it has ever done."

The wheat from this lot, has generally been above the standard weight, and has heretofore been taken off when that grain has sold in the market at from 2 to 3 dollars per bushel. Thus producing to the proprietor, in the space of four years, at least 4000 dollars. What may have been the expense of seed, and cultivation in this case, and what the clear profit, I leave to others to determine.

I have also been assured, by Mr. Holtzbecker, residing on his farm, near Newark, in this County, a gentleman, whose word will not be questioned by those who know him, and who has by the combined power of industry, science, and the liberal use of wealth, justly placed himself amongst the best farmers, and benefactors of mankind, that he has received at the rate of 53 bushels of wheat to the acre, from some of his land. This land too, it is well known, was but a few years ago, when it came into the possession of Mr. Holtzbecker, extremely sterile. He has improved chiefly with lime.

(2) See note on page 10, No. 2.

that *It is impossible I should be correct*—descend only to particulars, and show me wherein I am wrong.

If it be said, that I have rated our land, as it generally stands, too low, I have a cloud of witnesses ready to attest the contrary. If it be thought that land cannot be made to yield what we have assumed as the maximum crops, proof positive, that much more may be obtained, can easily be had. If the value of labour allowed, or the market price of produce mentioned, be objected to, I allow each one to regulate these as he pleases: if he be reasonable, we shall not materially differ in the result: and if he be unreasonable, I do not wish his attention. I have before declared that actual experiments, information indubitably correct, and careful observation, confirmed me in the opinion that poor land may, by the process and means before-mentioned in part, and partly yet to be detailed, be raised to first rate in point of quality in the time, and on the terms assumed. Many other objections to our system which may have arisen in the minds of those not yet fully acquainted with it, will be replied to, in what remains of this essay. One prominent difficulty will be here noticed. In the example taken, we had but a single lot of land, and that all arable. When we come to apply our principles to a farm, in all its varieties, there will necessarily be some difference. Whereas, in the instance taken, we had a regular routine of crops; one only in a year.—There would, on a full farm, be the whole of this course in one season. And the necessity in that case of having two sixths of the land for pasture annually, would make, (except the worth of the pasture) a deduction of one third the clear profits. The whole of the nett profits of the three crops on the ten acres of land mentioned in our example given, added together, makes the aggregate sum \$2161 00. If from this we deduct a one third part, and allow nothing for pasture grounds, the sum will be \$720 00; from our experiments we had the sum of \$723 50 remaining, which being made applicable to this allowance, leaves us still able to show that a farm of six separate lots or fields may be improved without expense.

A farm best calculated for easy improvement, and when improved, offering the greatest profits in return for the least active labour, is one consisting of about sixty acres of arable land, laid off in six equal divisions. Thus arranged, there may at all times be one field set apart for the culture of corn and potatoes, one for oats, one for wheat, one for grass, intended for the scythe, and two for pasture land. There should not, where the contrary can conveniently be avoided, be less than two fields appropriated to the range of stock, as by alternate changes of pasture, the herbage is not only found to be more abundant, and the vegetation to continue later in the fall, and to commence earlier in the spring, but live stock of all sorts, are known to thrive much better by such changes, than when confined exclusively to one enclosure. A plan has been suggested, and in some instances adopted; of mowing the whole ground of a farm, not in grain, and feeding live stock throughout the year in the barn yard. This scheme certainly possesses many and powerful advantages; yet I am not sufficiently acquainted with its disadvantages to determine upon the propriety of adopting it generally.

§ Such a farm, I know, would be laughed at by many agriculturists in the United States, who are in the habit of cultivating from one to three hundred acres in Indian corn, and as much in wheat yearly; but to such farmers I have nothing to say; their habits, and perhaps I might add their prejudices on this subject, are much too firmly fixed, to be moved by reasoning powers feeble as mine. Happily, however, for society, the great bulk of farmers have too little land to think of tilling it on so extensive a scale. The great object with these is to receive the greatest possible quantity of produce from the least given quantity of land, and with the smallest labour and expense. To such men 500 bushels of wheat, 1000 of Indian corn, 800 or 1000 bushels of oats or barley, with 20 or 30 tons of hay annually, would be considered a very good business; and this quantity of produce from a farm of six ten acre fields, I believe quite possible.

There should not, however, be less than one sixth of the arable land constantly kept in grass for the scythe. Grass is, in fact, one of the most essential, and invaluable articles, whether considered in relation to comfort or economy, with which the farmer has any concern. And either in a system of improvement, or for the maintenance of the soil after it has been improved to the utmost, it will be found absolutely indispensable. And it is equally certain that in order to derive the greatest possible benefit from hay, it should be fed in the farmer's barn-yard, and returned again at proper periods in the shape of compost, to the soil. The grass of ten acres of first rate soil, will, I imagine, when properly fed to live stock, nett more on the sale of that stock, than the hay would have done, if sold in the market at twenty dollars the ton. And the manure, an article, doubtless, of the first importance to the farmer, will be retained upon his land. The quantity of live stock, should, however, at no time be greater than may be found barely sufficient, when kept on full allowance, to consume the produce properly set apart for their use. This remark is equally warranted by economy, and by humanity.

Although, perhaps, not strictly in its proper place, I will yet here venture to observe, that whenever it is designed by the farmer to cut grass from any of his fields the succeeding year, such fields should be as carefully kept up from the range of cattle, as if they contained wheat, corn, or any other species of grain. For, independently of the injury sustained by the tender grass when cropped close in the fall, and thus left exposed to the frosts of winter, the feet of beasts, which are known to be sharp, and their weight considerable, penetrate the surface of the soil, more especially in moist weather, and reaching the tender roots of the grass, so injure them as to destroy, at least partially, the future crop.

I have heretofore said nothing in relation to the most proper soil for lime; if it was possible, indeed it is to be wished, that no one desirous of improving his land, should ever think of this. I feel persuaded it makes but little difference. Any soil not actually covered or subject to be covered by water, may be made first rate, in point of quality, by a judicious use of lime. Few things indeed have more deterred farmers from attempting to improve their soil than this ideal opinion that land where sand abounds, or stiff soil, where clay is the principal component part, cannot be improved, and cultivated to advantage.

An opinion has, in some way or other, gained general credit, that manure of any kind, when applied to a light or sandy soil, filters through it as a sieve, and is lost. It is most assuredly a mistaken idea. A mere bed of sand, if level, and not blown away by the wind, may be made a luxuriant soil. If of an unequal surface, being at first light, it may be more uncertain in its improvement, because the upper layer, or stratum, may be suddenly washed off by heavy rains. I am fully aware, indeed, that by the manner in which farmers of this county have generally applied their manure, upon this sort of soil, very little advantage has resulted from its use. One or two crops, perhaps, and it is no more seen: not, however, because it has sunk too deep into the ground, but simply on account of its force having been expended. First, as the quantity given was by far too small, and repeated at intervals too long; and, secondly, by a law of nature, which compels a sandy soil, from its inherent properties of lightness and heat, to give out more readily, and rapidly the substance of manure, to any vegetable which chance or design may throw upon it. Any partial and ill conducted attempts therefore, to improve such a soil, will be productive of but transient effects: for the same reason that a cubic foot of earth thrown once in every hour into a rapid current will be insufficient to arrest its course. A sandy soil may, however, be made and continued rich; it only requires to be choked at once, and suddenly. Lime must be laid on as fast as the land will bear its effects, and manure must be added as fast as it can be obtained. And it must, moreover, be ploughed deep. This course will be found soon to change its nature and properties: and to render it as



productive, and as durably so, as any other soil whatever.\*

A rich soil is every where the same. This point once fairly attained, and the yellow, or white sand disappears; nor is the cold, stiff, sterile clay any more seen. And hence has been said, what will be found strictly true, although at first view it seem paradoxical; that lime makes a stiff soil light, and a light soil stiff. Comparatively speaking, this is certainly so. It makes all soils rich, and in this merges all distinctions.

Whilst on this subject I would caution land-holders, that they be sure their soil does abound with sand before they pronounce it so. I have seen many tracts of land which had been deemed, without any dispute, as consisting almost entirely of sand; and which upon the surface was really the case, yet upon inspection a few inches below, a stiff clay was found to exist. Where shallow ploughing has been practised upon any soil, for fifty, or a hundred years, without interruption, this state of things will invariably be found to exist. If, indeed, the ground thus treated, has yielded any vegetation, all that adhesive and soluble substance constituting clay, will either have passed off in the growth of such vegetables, or will have been wasted by evaporation, in the surrounding atmosphere; leaving nothing behind except those minute pebbles which we denominate sand; and which in the nature of things could neither escape by evaporation, nor by the growth of vegetable matter. It seems to have been wisely designed by nature, to mix a certain proportion of sand with the clay, which constitutes the natural earth, in order to prevent the latter from becoming too compact and solid, and to impart to, and retain in it, a proper degree of heat for the production of vegetable substances. We see the same thing existing in the natural atmosphere. Here chymistry has discovered that it requires an exact mixture of different species of air, totally distinct in their properties, to constitute an atmosphere, not only proper for the growth of vegetables, but also for the continuance of animal life.

Whenever therefore, a surface of sand presents itself to the farmer, I would suggest to him the propriety of passing his plough a few inches deeper in search of clay; and am persuaded he will not often be disappointed, or lose his labour. If he should still discover no clay, he can make it by artificial means, with lime and manure, as before-mentioned.

I have had frequent occasion, in the course of these remarks to mention the propriety, and to recommend the practice of *deep ploughing*. My reasons for this, I will now attempt, as briefly as possible, to explain.

It seems an invariable law of nature, applied to every order, genera, and species of trees, shrubs, and plants, comprising the vegetable kingdom, that they shall absorb their nourishment from the earth, by means of roots, with which each has, in proportion to its size, been plentifully supplied. Such as have been scattered over the face of the earth by the hand of nature, and designed to grow spontaneously, are found, for the most part, to be furnished with these roots, so strong and vigorous as to penetrate the hardest soil, to a great depth, and to extend themselves in despite of every natural obstruction, far and wide; and are thus enabled from the extent of ground they occupy, however lean and poor the soil, to search out and convey to their respective stalks nutritious matter sufficient for their support and growth. Those

\* It is a fact, that sandy land may be made rich and a salutary alteration made by the portage of clay, and by deep ploughing, to reach another stratum; but it will always have its election of crops, and require a different management from natural stiff clayed soils. The lightness of the soil close about Baltimore; the immensity of manures placed on it, and the need of renewed applications in very short periods, make it needful to ask the question, will not much less do on such soils annually?—if not, its locality is its life—whilst clay lands at a greater distance can stand the tug.

Edi. Am. Far.

vegetables, however, which more especially claim the attention of the farmer, are not of this description; their absorbents (if the term be allowed) are of a much more tender and delicate nature. And although many of them might be found to live under the mere guidance of chance, yet their product in this way would amount to little or nothing: the utmost industry and ingenuity of the farmer is constantly necessary in order to insure a productive crop; and as this crop, as well as the very existence of the plant which produces it, is made absolutely to depend upon the vigilance of those roots, or absorbents, to seek and convey it nourishment; and as this nourishment is no where to be found except in the soil, it would seem to follow as a matter beyond contradiction, that the more deep and extensive the spread of their roots, the more there would be of this absorption: and consequently the more luxuriant the growth of the vegetable, and the more abundant its produce.

Reasoning thus, it would remain for us to inquire, in ascertaining the proper depth of soil, for the most perfect growth of any particular vegetable, how far the roots of that vegetable would extend themselves, if uninterrupted by the stiffness, the hardness, or the poverty of the soil.

Indian corn is, with us, an important article in husbandry; the roots of this plant are inconceivably numerous, and when at liberty, will extend themselves to an astonishing distance. I believe if permitted, they would penetrate several feet into the ground, and their length, running off horizontally is seldom I imagine less than double that of the stalk above ground, with its leaves or blades extended. The extremity of these fibres, or absorbents are however extremely tender, and few of them are found to sink below the mark of the plough share, especially in a soil of any stiffness; meeting with resistance here, they pass off, and run a few inches only below the surface of the ground; they consequently soon exhaust the strength of such a soil thus managed: and additionally, from their superficial situation a few days of hot and dry weather arrests all further growth of the stalks.—Hence it is, that corn upon a poor and shallow soil, will grow tolerably well for a few weeks at first, but when clay abounds, will in the end, produce nothing; and for the same reason it is, that in a poor soil, where sand prevails, and is consequently light, without the aid of the plough, for several feet perhaps in depth, astonishing crops will be produced, when compared with the appearance of the land.

It is not more obviously the interest, than it is the wish and object of the farmer, to obtain the greatest possible quantity of produce from the smallest given quantity of land.

If our reasoning thus far, in relation to a deep soil, be correct, it will follow, that to obtain the greatest possible quantity of Indian corn, from the least allowed quantity of land, the soil should be as deep as the farmer can make it. It will not be possible with any reasonable degree of labour, to extend it beyond the points we have already fixed at first rate, to wit, twelve inches. And admitting the same quality in each acre, it will I think, be found on trial, that if one acre of land, the soil of which is four inches deep, and which has been ploughed for the crop, no deeper, will produce twenty bushels of corn; the same acre, extending the soil and ploughing to eight inches, will produce forty bushels: and if twelve inches eighty bushels, with the same labour. The increase of produce, in this article especially, will keep more than even pace with the increase in depth of soil, because, independently of the proportionate increase of stalks which a deep soil will bear, each stalk will contain more and larger ears. And as the soil, and consequent spread of roots, deepens, the danger from insects, accidents, and weather lessens.

I risque it as an opinion, confessedly, without any actual experiment to support it; that as a matter of curiosity, it might be possible to make some fraction of an acre of ground so deep, and perfect in its soil, as to produce and maintain to maturity one stalk of Indian corn upon every twenty-four inches of square surface. If so, and we allow one good ear to each stalk, and half a pint of grain for each ear, the product

would be about at the rate of one hundred and sixty-eight bushels to the acre.

This may at first view seem an extravagant idea; yet if we justly estimate the immense power which land may be made to exert, and remember that corn thus closely set, would prevent the growth of all extraneous vegetable matter, and consequently demand but little tilling, the opinion may not seem so preposterous. I know indeed of but one insurmountable difficulty in the way of this product; the air and rays of the sun would be nearly or altogether excluded, by the closeness of corn thus planted. And yet, with such a soil as here contemplated, even these might possibly be dispensed with.

We have in the Memoirs of the New York Agricultural Society, a well attested instance of one hundred and eighteen bushels of Indian corn having been raised at one crop, upon an acre of land.\* This is approaching nearer to my ideas of a perfect crop of this grain, than any case I have yet heard as being well substantiated. The time will come, gentlemen; it must come, when the full power of land will be understood; and when the now commonly received opinions on the subject will be viewed, as we esteem the notions of those who once thought a bow and arrow, or a stone and sling were the most powerful implements of war, that the ingenuity of man could possibly invent.†

It is well known, that in some of the western States of the Union, where the soil has been accumulating by the slow, but steady hand of nature uninterrupted, until recently, by the agriculturist, for some thousands of years, and where it has consequently acquired a quality perfectly congenial to the growth of vegetables: and a depth of from one to two, three, or more feet, the most astonishing quantities of grain are annually received from it, even in despite of the most wretchedly careless, and slovenly system of farming.—The difficulty indeed, and in many instances the total impracticability of disposing to any advantage of their surplus produce, takes away the prospect of gain from the western farmer, and leaves him destitute of that hope which alone can stimulate men to great and successful exertions. Nature has there presented them a soil which yields more than sufficient for home consumption, almost without the aid of manual, or the ingenuity of mental labour. A mode of tilling their ground seems consequentially to have been commenced, which if persisted in, until time and use shall have worn down their soil, can hardly fail to leave the then proprietors, in a worse situation, if worse be possible, than the farmers of the Atlantic States now endure. It may indeed be long before such a soil as theirs can be exhausted; it is much deeper than ours has perhaps ever been; owing to causes, and explanation of which would involve a discussion on the theory of the formation of the American continent; and could not here be useful, as it would be foreign to the object of this essay. It is sufficient that we know their soil is much deeper, and that their crops, with worse farming, are much more abundant than ours; and that this difference can be fairly attributed to no other cause.

(To be continued.)

\* A similar experiment with precisely the same result, as to quantity, has lately been made in Pennsylvania. The manure used in both cases appears to have been street dirt.

† We are told by Judge Bland, that in the province of Chili, in South America, 50 bushels of wheat for one sown is an average crop. If this quantity be the medium, what must be the greatest product? Perhaps the power and worth of land is better understood in China, than in any other part of the world. If historians, and travellers have not combined to deceive the world, a Chinese will support himself, and a family of 8 or 10 souls by the cultivation of a piece of land less than is covered by many a farmer's barn and stock-fold.

In England, and even in our own country, near large cities, and populous towns, 20 or 30 acres is considered sufficient for a farm; and the worth of land in these situations soon induces the owners so to manage, as to discover its power.



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*Communicated by Geo. W. Jeffreys, Esq. of North Carolina, for publication in the American Farmer.*

*Amelia County, Va. Aug. 16th, 1818.*

DEAR SIR,—I received your favour, dated the 28th ult. and am very much pleased to observe the rising and extending spirit of improvements in agriculture, as is now evinced by your and various other societies, lately established, which I view as the very best security I can have, that when I am no more, the labour of upwards of thirty years improvement, will not be spent in vain; after contending against a host of prejudices, at a time when there was no precedent to aid or direct me in my course in this part of the state, being myself a complete novice, but actuated by an ardent desire of improvement, arising from the exhausted state of the lands in this county, with a comparative view of them in Europe, determined me to attempt improvements, not only of the land, but also of the manner of cultivating crops, and I hope my exertions have not been altogether unprofitable to society as well as to myself. Experience of the world has long satisfied me, that to offer information or advice unasked, is an unthankful office: but when solicited there is strong reason to believe, that it will be duly appreciated—under these circumstances I have always been happy to have it in my power to be able to communicate my mite, to increase the stock of useful knowledge.

Previous to my answering your queries, I thought it would not be altogether uninteresting or irrelevant, to give you a short narrative of my agricultural progress, since I have resided on this farm, though it has been very much impeded by ill health, professional and other engagements. It is now somewhat upwards of thirty years since I settled on this farm, about 45 miles from Petersburg, and 4 south of Appomattox river; this small poor tract of land, contains about 340 acres, and when I settled on it, there was about one half cleared, worn out, and having more and deeper gullies than any tract of its size in the county. The soil in its original state, was a thin grey soil, its growth pine, oak and hickory, very much inclined to be spungy; the substratum, a hard, tough, tenacious and barren yellow and red clay; it is extremely variegated, there being almost every kind of soil on the tract and not one square acre exactly the same. I have had for several years 240 acres cleared, in four fields. The course of crops, corn, wheat and clover two years. Each field contains sixty acres, but in order to receive as much benefit as possible from the clover, one fourth part of the land is laid off into four fifteen acre lots, which are grazed by the stock, and the balance put under a ring fence, without dividing fences; no more clover is cut annually than is necessary to soil my work horses through the summer (as they are kept in the stable the whole year) and make seed to season the fields, the balance lays and rots on the land; the lots have the same course of crops as the fields, but are grazed by the

stock, and though they have double the quantity of manure put on them, as the fields have, yet they do not improve as fast; a fact strongly illustrative of the benefit of the enclosing system. The average produce of the land for the first years of cultivation was three bushels of wheat per acre, and six bushels of Indian corn per acre. Four or five years ago, the average crop was from thirty to forty bushels of Indian corn per acre, fifteen bushels of wheat per acre, succeeding the corn crop. For the last four or five years the Hessian fly has been so destructive, that I have not made more than one third of a crop of wheat each year, and this spring, their destructive havoc appears to promise a devastation not exceeded by any previous years.

What proportion of the general improvement is attributable to plaster, I am unable to say; but on a considerable part, its apparent effects have been moderate, but on part, it has operated by a magic, almost incredible, so that the part where the plaster has had its most beneficial effects, though unaided by manure, and cleared upwards of forty years ago, is now by far the richest part of the farm, producing upwards of ten barrels of corn per acre, and more than twenty bushels of wheat, when not injured by the fly and following a corn crop.

For the last four or five years, the plaster has not had the least visible effect, though annually used in a variety of ways, which I attribute to the soil, being saturated with it. This idea is corroborated by Sir Humphry Davy, in his elements of Agricultural Chemistry; he observes that the soil of Great Britain generally, is unfavourable to plasters, and on analysing it, he found a quantity of plaster in it, and concludes, that the soil is saturated with it.

I have sent you the queries and answers on a separate paper, unconnected with this letter, which has become so prolix, that I am afraid, you will hardly be able to wade through it with patience. I hope you will excuse the many egotisms which the nature of the subject has called from me—hence I conclude with my best wishes for the welfare of your society, and that whatever benefit my small acquisitions may be able to render, is at their service whenever required.

I am with all respect,  
Yours, respectfully,  
WM. MERIWETHER.

*G. W. Jeffreys, Esq.*

1st. How long have you used the plaster?

*Ans.* Upwards of sixteen years, the two first years partially in trying experiments, about 12 years very liberally, and for the last 3 years, only partially; in the whole time, I have used upwards of sixty tons, on 240 acres of land.

2d. What state was your land in, when you began to use the plaster?

*Ans.* As poor and exhausted as any in the neighbourhood?

3d. On what soil does the plaster succeed best?

*Ans.* On a coarse springy black jack land, where there is a considerable mixture of white coarse grit, with a little black mould, usually denominated here hominy land; on this kind of land the crops will usually grow off quick, and as the heat of summer advances, burn up, turn

yellow, and yield generally very light crops on this kind of land. The effect of the plaster has been beyond credibility, unaided by any other manure than its own growth of clover, it has become by far the richest land I have, yielding, generally ten barrels of corn per acre, and twenty bushels of wheat (when not destroyed by the fly) after the corn crop. The next best is a light deep sandy, and the stiffer soils, the least effects.

4th. What quantity to the acre have you generally used?

*Ans.* Upwards of two bushels or nearly three in the 12 years in which I used it liberally.

5th. In what way is it best applied to the soil, with or without ploughing, with or without other manure?

*Ans.* On land, where there is a considerable quantity of weeds, a bushel of plaster per acre, sown broad cast over the weeds immediately before ploughing them in, will produce a more speedy decay of the weeds, and considerably benefit the ground; also where ground is manured, the same quantity of plaster, sown on the manure immediately after spreading, and then ploughed in, will nearly double the effects of the manure.

6th. Have you repeated the application of it? At what intervals and with what effect?

*Ans.* I have used the plaster on the same field every fourth year, as the field came in course into cultivation; sometimes I have sown a bushel of plaster per acre, over the ground, where I applied manure, or where there was a considerable crop of clover or weeds, at the time of breaking it up, for a corn crop, and always prefer breaking it up as late as possible, so as to have it ready by the time of planting corn; and in that year I use it in various ways, as stated in the several answers, and with more or less effect, according to the quality of the land, for the above-mentioned period of twelve years.

7th. To what kind of grain crops can it be beneficially applied, and in what is it best applied to them?

*Ans.* Indian corn, corn field peas, oats, buckwheat, are all benefited by wetting them with water, and then rolling them in plaster, immediately before planting or sowing them. My manner of planting Indian corn is, by preparing it as follows, before planting, viz; as much as you can plant in two or three days, soak for two days in water made as warm as you can bear your hand in, without inconvenience; this water grown cold by time, is poured off, and some more warm water poured on the soaked corn; let it lay long enough for the corn to become of the temperature of the water; at this time you must have ready some tar, heated in a pot with a little water, a bottle or two quarts of tar is sufficient for a barrel of corn; you now pour off your warm water from the corn, which water will do to soak more corn in; put the corn in a large shallow tub or trough, so as you can come at it to stir it about; pour on your tar and stir the corn till every grain is coated with it, which will be done with great ease and expedition, then you put half as much plaster as corn, and mix it up well together—if it is to dry, that is if all the plaster is not moistened, add a little water,

then carry it in the field, and plant it deep; cover up what they are not immediately using, for if exposed, it will dry very fast. This mode of preparing the corn prevents it from rotting, and in a great measure the depredation of birds and insects. I have just now finished replanting my corn, and my overseer informs me he has not seen any rotten corn, whilst my neighbours complain very much of their corn rotting; the taring the corn, will make it somewhat later in coming up, for which proper allowance must be made in time of replanting.

8th. Have you found it beneficial to tobacco and what way was it applied? Does it benefit succulent and leguminous crops?

Ans. I have not cultivated tobacco more than three times in thirty, and but once with the 12 years being alluded to, I cultivated a manured lot in tobacco, and at the time the tobacco was first trimmed out, about a table spoonful of plaster was put on and around every plant of tobacco in every other row; it produced a very singular effect, which was visible as far as the tobacco could be seen; in the unplastered rows, there was a great deal of thin yellow tobacco, 30, 40, to 100 and upwards of plants in a row quite yellow, while the plastered rows were dark green, thick and larger tobacco than the unplastered, and there could not be found one yellow plant in the whole lot in the plastered rows. Irish potatoes is the only succulent crop I have found benefited by rolling the seed in plaster, at the time of planting. With respect to the leguminous crops, the corn field pea, and the garden pea, is very much benefited by wetting them and rolling them in plaster, at the time of planting?

9th. To what kind of grasses can it be beneficially applied? and in what way is it best applied to them?

Ans. The only kind of grass to which I have applied the plaster is clover, which I generally sow the last of February or first of March; about the middle of April I give a dressing of plaster, at the rate of one bushel per acre, and no more at any subsequent time, though it would be benefited by an annual dressing. I have no meadow, though I have a variety of grasses on the farm. I am opposed to meadows unless on tide water, the reason for which I at present must defer, and confine myself to the queries.

10th & last. What has been the increased product per acre of grain and grass crops, from plaster alone.

Ans. This is rather a difficult question to solve, according to the sense in which it is taken, when confined to plaster alone, it must mean the first experiment on the common land, unaided by manure; when confined to this sense, the corn crop has increased one third, the clover on land that would not produce it at all, has by one year's dressing produced it, three feet in length and thick. If the meaning of the query is confined to plaster repeated for several years, aided by the clover system, but unaided by manure, I can then say, that on particular parts of the land, the product is the greatest of any of the whole tract, though once so poor as not to be able to produce clover at all, though repeatedly sown with it.

I have in no instance seen any benefit from

the immediate application of plaster to the wheat crop, though tried in a variety of ways and seasons.

#### FOR THE AMERICAN FARMER.

##### ON THE USE OF

#### OYSTER SHELLS BURN'T WITH MARSH MUD, AS A MANURE.

GEORGE-TOWN, March 27th, 1820.

DEAR SIR,—I some time ago, you may recollect, mentioned to you, that I had been told by a friend in the state of Delaware, of a mode of late years, adopted in that country, of burning oyster shells with mud or clay, and of using the ashes or lime so obtained as a manure; and that I had been promised information on the subject. I have lately received it from Cæsar A. Rodney, Esquire, in a communication to him from Mr. Warner, a highly respectable farmer, in the vicinity of Wilmington. Believing it of importance, that it should be generally known, and that neither of these gentlemen will have any objection to their names being used in its publication; I take pleasure in sending you the paper for that purpose, should you on perusing it, think of it as I do.

With much regard,

Very truly yours,

JOHN MASON.

JOHN S. SKINNER, Esquire.

WILMINGTON, March 16th, 1820.

MY DEAR SIR,—I now communicate, in the inclosed papers, just received, the information long since promised, on the subject of burning mud and shells, as practised in this neighbourhood. With the expectation that it may prove useful to yourself and the agricultural interests, in your quarter,

I remain, with sincere regard,

Yours truly,

C. A. RODNEY.

To General JOHN MASON.

Wilmington, February 1st, 1820.

DEAR SIR,—In compliance with your request, I communicate for the information of your friend, the following remarks in relation to the experiment made by me in clay or mud burning.

I commenced mud burning in 1815.—During that year, I burned about one hundred and seventy cart-loads, and about one hundred bushels of oyster shells, in a single heap. The mud was principally blue mud, obtained from the cleaning of drains or ditches; being thrown out in the spring, upon the edge of the drain, where it remained until harvest, when it had become generally dry throughout. I began the fire or kiln with about one third of an oak rail, which being completely on fire, I applied to it the lightest and driest mud or tussucks, that I could procure. The fire should be kept well covered, and if it burn rapidly, and the flame or smoke penetrate through any aperture, it should be covered with fine earth, which confines the heat, and causes the mud to burn inwardly. Around and adjoining the first heap, when you are satisfied that it is completely on fire, you should commence three or four other fires, similar to the first, with which they will very soon become connected; and thus you may proceed with small fires around the original heap, and on the surface of the ground, until you have disposed of all the mud you intend to burn. This method may be recommended for two reasons.—First, it increases the body of fire below, and thereby prevents the danger of extinguishment; and secondly, it keeps the top of the heap within your reach, which it is necessary to keep pretty heavily dressed. To ascertain how the heap is burning, I carry with me a strong stick or cane, which I run into the heap, and thereby discover the distance from the outside to the ashes; and, as it generally happens that one side of the heap burns much more rapidly than the other, it is necessary to dress that side the heaviest. I use no flues to give air, being satisfied

that the mud burns much better when the air is excluded.

In the year 1816, I burned six or seven hundred cart-loads; a part of this was done in small heaps on a piece of high marsh overrun with elders; the marsh was ploughed about four inches deep, and the surface burned and spread over the same ground. From this experiment I derived little or no benefit, and I am therefore induced to believe that paring and burning are injurious, even when the whole quantity of ashes is spread over the same ground.

During the last season, I burned altogether in small heaps of from three to eight cart-loads each, which saved the expense of cartage. I prefer this mode for another reason; the process is much more expeditious, where the burning is done in small heaps, than in large; in the first case the manure is ready in two or three weeks, and in the latter it requires two or three months.

About two bushels of oyster or marine shells, may be beneficially burned with each cart-load of mud.—When this is done, the mud must be in large heaps.—After the heap is well on fire, give a very light dressing of shells over the surface of the heap, so as to permit the fire to communicate from below the shells to the dressing of mud above them.

It is proper to state that wood is only necessary at the commencement of the operation, which requires great care and judgment. When it is once on fire thoroughly, the mud will prove sufficiently combustible to keep the fire alive.

The proper season for burning may be assigned from the first of May until the middle of September, taking care to select a dry time to commence with the heap; after it is fairly in operation, I conceive some rain to be beneficial, as it has a tendency to confine the heat.

Marsh mud of any kind is excellent for burning, and with it all kinds of shrubs or roots, which are commonly found in a marsh, such as tussucks, elders, &c. Also any species of earth taken from swamps or meadow ground, that is free from sand. Clay of every description makes a strong fire, when once commenced: although I have never tried this species of earth myself, yet in travelling last summer about fifteen miles from this place, I saw a heap containing about one hundred loads of handsome ashes burned from stiff blue clay. This was burned upon Cobbett's plan; and in the same field there were also many small heaps burned upon the plan I have laid down. The owner of the farm was not acquainted with the method of increasing the heaps, which I explained to him, and he expressed his intention of adopting that plan, in order to save fuel, and the expense of building clay walls, according to the English practice.

I consider the ashes procured in this way a cheap and valuable manure. The reduction in quantity is about one third, and I have ascertained in one instance the expense to be about twelve cents a common cart-load, allowing the hands employed one dollar a day each, and three dollars a day for two carts and a driver. My crops of wheat, from this method of manuring, have been equal if not superior to those dressed with stable or barn-yard manure. There should be from forty to fifty cart-loads of ashes per acre. I have made an experiment of top dressing meadow ground; the effect it produced was, that the cattle turned into that meadow to graze, would eat the grass of the part manured in this way perfectly bare, before they would touch any other part of the pasture. I have this season about nine acres of wheat, manured with mud-ashes, that promise well. In an adjoining farm, a fair experiment is now making by Mr. John Woolston, who has manured with burned mud about three acres of land, and an equal quantity with stable manure; the remainder of the field is manured with lime, fifty bushels to the acre; there is but little difference visible in the parcels on which the burned mud and stable manure have been put; but their superiority over that which has been limed, is very apparent.

Very respectfully your friend,

JOHN WARNER.

C. A. Rodney, Esquire.



To these very perspicuous and interesting remarks, we should have been glad to have added an account, on file of "EXPERIMENTS ON THE EFFICACY OF BURNED CLAY AS A MANURE, by the Rev'd Edmund Cartwright, D. D." of England, for which he obtained the gold medal. The subject is one of manifest importance, because if clay reduced to ashes be thereby converted into manure; it is a resource within the reach of every farmer. The narrative of *Experiments* above-mentioned, will be given in our next; in the mean time, we offer our sincere thanks to all the gentlemen, by whose politeness we have been enabled to submit the preceding letters to our subscribers. The burning of shells with marsh mud, is new to us at least; and there may be some peculiar virtue in the combination. See the following remarks, which reached us some weeks since, from an *unknown hand*; by the by it is surprising, that in matters of the plough, which enjoin plain language, and have no connexion with sects or parties; men should be so squeamish about giving to what they write, a "local habitation and a name."

*Edit. Am. Far.*

*Regulation, Queen-Anne County, Md. March 19th, 1820.*

MR. SKINNER.—While perusing a communication of your correspondent "S," on the subject of the use of lime as a manure, it reminded me of an accidental application of lime, to corn in the spring; the result of which served to establish his views, and supposition of its manner of acting, so clearly, I think it a duty to communicate it; whether it has a claim to a column in the *Farmer* or not, you are entirely at liberty to determine. Mr. "S" gives an opinion unequivocally, that lime only speedily acts as a fertilizing agent, when so managed as to become soluble, and of course that whatever tends to prevent its cohesion, must be useful. In the result of the following experiment, Mr. "S's," opinion seems not only established beyond a doubt; but an agent is discovered, which produces the desired effect. My brother, in May, 1819, drew out about six bushels of ashes, which had become considerably mixed with shell lime, and not being acquainted with the use of lime, was disposed to be on the safe side, and divided a common spadeful equally with 3 hills, (the mixture being entirely dry,) which embraced perhaps 500 hills near the centre of his field. The land on which he applied it, was old, sandy, and exhausted; from its situation precluding the possibility of any better culture, it stood no better chance, on that ground. In the course of 3 or 4 weeks, he found the corn in every one of those hills, as good again as the adjacent corn, at which time he communicated it to me. I requested him to notice it throughout, and inform me how it turned out; he did so, and informed me it was as good again when gathered. I viewed this as worth noticing then, as so small a quantity should produce so great an effect, though inclined to think the same quantity of either, would do as well. But from Mr. "S's" experienced declarations, and some hints from others, I entertain no doubt of the indispensable necessity of lime's being thoroughly dissolved, to answer an immediate purpose. If any person doubts of the efficiency of ashes to prevent lime from cementing, let them put only one fourth part ashes, and plaster a wall therewith. They will then perhaps conclude with me,—if to prevent lime from cohering, be the means of making it an active, fertilizing agent, ashes is the article, by which it can be completely effected. Those who have lime, will do well to preserve their ashes carefully.

Respectfully yours,

W. R.

## On the Cultivation of Turnips.

We attach so much importance to an increased attention to the cultivation of *root crops*—that we here give with pleasure, an interesting account of the culture and uses of *Turnips*, by our valuable, but unknown correspondent—"an Agriculturist of Delaware"—why should such writers, we repeat, high as they must stand as practical Husbandmen, withhold the weight of their

names?—It befits us, however, to be thankful for such information communicated under whatever reserve.

Without live stock, how can farmers at a distance from towns raise manure?—how can land be improved without manure?—how can stock be passed through the winter, in good heart, so as to fatten well and early in the next year, without the nutriment and the medicine of *root crops*?—hence it is that we so gladly publish all that is worthy of record, concerning their relative value and best modes of culture, that the southern subscriber shall not plead ignorance of what may and ought to be done—and how to do it.

*Editor Amer. Farmer.*

FOR THE AMERICAN FARMER.

March 30th, 1820.

MR. SKINNER—

SIR—According to my promise, I now give you the mode in which I cultivate Turnips. The kind cultivated, is the Norfolk white field turnip, having succeeded much better with it than the Ruta Baga; and from the experience I have had, think it stands any weather better, and is less liable to injury from the fly—though at the same time, I believe a bushel of Ruta Baga, contains more nourishment than the like quantity of the Norfolk turnip. As soon as my corn is planted, which is generally by the first of May, I plough deep the land intended for turnips; about two weeks after, I harrow it twice; so as to completely break the sods—the first of June I plough again across the former furrows—the middle of June harrow twice, and the last of the month, give another ploughing and immediately harrow it perfectly level—I then cart on the manure, about thirty loads to the acre, which is spread, and immediately ploughed under; and one stroke with the harrow given the way it was ploughed. The land remains in this state until the 25th or 30th of July; which is the time I prefer for sowing, should the weather be favourable. The ground is then ploughed and harrowed once the same direction, the seed sowed, half a pint to the acre, and harrowed in with one stroke of a light harrow, the same way as before. Most persons, put their manure on at the time they sow their seeds; which is I think, the cause of the crop so often failing: as the turnip must have considerable root before it can feel the effect of manure so lately put on, and not yet mixed with the ground; whereas, by ploughing in the manure about three weeks before sowing, it gets well mixed with the soil; and the last ploughing again turning it up, affords a rich mould, in which the seed quickly vegetates, and grows in a few days (if the weather should be favourable) out of any danger from the fly; which never injures it, when it has the rough leaf.

As soon as I find the seed sprouting, I sow by hand over it, from four to five bushels per acre of bleached ashes; and as soon as the leaves appear, two bushels per acre of plaster; and have never failed in the above mode, of making good a crop. Should the turnips prove too thick, they are quickly thinned with a hoe, to about 10 or 12 inches apart. The plaster, as well as the ashes, should be sowed in the morning, while the dew is on the ground; as by that means it adheres better to the leaf, and pre-

vents the depredations of the fly. I shall this summer, measure off an acre of turnips, pumpkins and corn; and feed the produce to the same number of cattle, to ascertain exactly their relative value in feeding and fattening; an account of the result shall be given you, and should be glad if some of your agricultural subscribers would do the same.\*

My reason for sowing the 25th or 30th July, is, that should my crop receive any injury from the fly or dry weather; I have but to sow and harrow again; there being still sufficient time, having made fine crops sowed, as late as the 16th of August. My turnip ground is always put in wheat, and from which I have invariably made a fine crop. The common opinion that wheat will not grow after turnips, is very erroneous—to those, however, who do not wish to sow wheat after them, barley cannot be too strongly recommended—though for myself, I prefer wheat.

I have wintered upon turnips, upwards of fifty hogs, and found them thrive well; and in the spring were all in fine order. The turnips were given to them raw twice a day, as many as they would eat; they never had corn, except in a snow storm, when it was inconvenient to get at the turnip holes, and this was but five or six times during the winter. The turnips were gathered the first of November, the tops cut off, put in heaps of about one hundred bushels each, and covered with earth in the usual way. There is, however, no more convenient or better shelter for them, than a slight fodder house.

My milch cows, as well as the other cattle, are regularly fed with them twice a day, and find the milk greatly increased—they must for cattle, be cut to prevent choking, for which purpose I use a large hoe and sharp spade, which performs the operation very expeditiously—each cow has nearly a bushel per day. There is one disadvantage attending the feeding of milch cattle on roots, it being difficult in churning, to make the butter come; this can however, be easily remedied, by throwing a wine-glass of vinegar into a common churning, and more if the churning be a large one.—Cattle fed with turnips and straw, are more healthy in appearance than those fed on dry food exclusively.

Turnips give an unpleasant taste to both milk and butter, if fed in too large quantities to milch cows; but this can in a great measure be removed by dissolving a large tea-spoon full of saltpetre in water, and put into each gallon of new milk.—It is, I believe, very generally done by those in the habit of using turnips in the neighbourhood of Philadelphia—and it has frequently been recommended in English Agricultural Essays.

*An Agriculturist of Delaware.*

P. S.—I have often heard my friends in Baltimore, regret that *Cream Cheeses*, such as are brought to the Philadelphia market, are seldom, if ever to be had in Baltimore. I send you the receipt for them, which you can insert in your paper, if you think it will serve any of your subscribers.

\* To this we say Amen.—*Ed. Far.*

## TO MAKE CREAM CHEESE.

For two cream cheeses, take six quarts of new milk and one of sweet cream, to which add two or three spoons full of rennet, and let it stand until sufficiently firm—spread a linen cloth in a large basin of cold water, lay the curd gently on it, tie the cloth, and hang it up to drain for 4 or 5 hours, in a cool place; then change the cloth and put the curd into a vat the circumference of a common plate, and press it moderately 6 or 8 hours, when it must be taken out, turned and split in two with a thread; lay the cloth between them, and again put them in press, for twelve or fourteen hours—if then pressed enough, which can be ascertained by their firmness—keep them in fresh grass a few days, turning them morning and evening.

## On the Choice of Seed Corn.

COPY OF A LETTER FROM COL. TAYLOR TO GEORGE W. JEFFREYS.

Port Royal, (Virg.) March 7, 1818.

DEAR SIR,—Enclosed are some grains of the corn I mentioned in my last. After having tried many varieties in the course of my life, it seems to me to be the best, which has hitherto come to my knowledge. Could it be preserved pure from mixture, its product would vastly exceed that of any other kind I ever saw, but this is rendered impossible, by the wide range of the pollen floating from the great variety of corn, cultivated in our country. Hence it will degenerate every year to some extent, and the best remedy against this degeneration, though far from being an effectual one, that I could think of, has been to select my seed corn at the time of shucking, of the most perfect ears, and to keep it cool and dry, separately or planting.—By this means, the crop will always have a proportion of the genuine sort, and remain every year considerably impressed with its character, so as to be more productive, after suffering the loss of such degeneracy, than any other kind; for most of all kinds are equally exposed to a similar change. In selecting the seed corn, the largest and longest grained ears are carefully preferred. The superiorities of this corn, consist of a larger cob, more rows, and longer grain, than are commonly seen.\* With us, its

\* By reference to page 38, Vol. I. of the American Farmer, it will be seen that the Editorial remarks there made, are in full correspondence with this opinion of Col. Taylor. The objection urged by Col. Mercer, would have more force if corn were sold by the weight, and not by measure; and if the fact be clearly ascertained, that the gourd seed is lighter than other corn, the objection holds at all events to the extent, that the corn crop is consumed by the farmer himself.—In that case, he should set off deficiency of weight of this corn, against the greater yield of others, and make his selection accordingly. Mathematicians say, that the honey-comb is so divided as to hold more than can be contained in an equal number of divisions in any other form, within any given space; and it strikes us that the form of the yellow gourd seed corn grain, approaches nearer than any other to the shape of the cells of the honey-comb. The letter from Col. Taylor, is picked out from amongst a series from him to George W. Jeffreys, Esq., and published before we are prepared to give the rest; because the time is at hand for the farmer to choose his seed corn. We are still of opinion, that the man who is doomed by necessity, or by want of skill, or by indolence of mind or body to till poor land, ought not to choose the yellow gourd seed.

Edit. Am. Far.

yellowish complexion, and the facility with which it is gotten off the cob, are also recommendations, and its large size increases its supply of vegetable food and litter. If you should incline to try it, you will recollect that it should be planted as distant from other corn as possible, and that to obtain the most perfect sample, fine land and thin planting, would be advisable in the first experiment.

I am respectfully, Sir,  
Your most ob't serv't,  
JOHN TAYLOR.

FOR THE AMERICAN FARMER.

Cedar Park, April 14, 1820.

MR. SKINNER,

On examining the few large pumpkin seed that remained after supplying several applicants, almost the whole appeared to be defective in the pulp; the species seemed to be deficient in seed, and the quality may have been injured by last year's drought. Of those most likely to vegetate I send you nearly one half.\*

I would gladly make trial of the yellow gourd seed corn, and would thank you for a few of the grains if you have them to spare. Although the different kinds of that species of corn that I have tried, appeared to lose more in weight than they gained in bulk: my prejudices are in favour of what I have heard called the large white Tuscorora corn, for a deep black mould; it is not a flinty corn, it is a plump grain of a fine flour, the ear of the largest size, and weighs well, yielding but little husk,—of this kind, however I have never seen a good specimen in this state.

I have this morning finished the sowing of 30 bushels of spring wheat, an experiment made on the recommendation of Marshall, as quoted by Young in his Farmer's Calendar, page 190, London, 10th edition. He even advises to postpone seeding till May, as the great secret for procuring plump perfect grain, which spring wheat, sown early, will not produce.—I last year seeded very shrivelled defective grain in the last instead of the first of March, as I had done the year before, and I improved my sample of corn very much.—I will inform you of the result of the experiment, as I deem spring wheat if it can be grown in perfection, of great importance in a country infested with garlic and blue grass, as the lands on our navigable waters generally are.

I remain, very respectfully,  
Your ob't servant,  
JOHN F. MERCER.

\* All since disposed of.

## Occasional Extract.

MR. SKINNER,—I have read the essay, (I think in the last number of the 1st volume,) on the subject of Clay burning, with great interest, with a determination of making the experiment on my farm, consisting almost entirely of a stiff, red clay soil, much of which has been considerably exhausted by bad cultivation, before I purchased it, and now stands in need of all the assistance I can give it. I find upon closely examining the essay, that although the writer

directs the mode of burning, yet he does not inform you how long it should be burnt, with a strong active fire, nor what the consistence is when the burning is finished; I am afraid I may burn it too much or too little, and to avoid either difficulty, you will confer a singular favour on me, by giving me such information as you may possess on these points. It will be highly satisfactory to know the time required, to reduce it to the state to be used as manure.

Yours very respectfully.

Petersburg, April 11th, 1820.

NOTE.—To the above queries, from an esteemed correspondent, the Editor requests an answer.  
Edit. Am. Far.

From the Boston Daily Advertiser.

## On the Cotton Trade.

This article strikingly exemplifies the progress of American commerce. Its cultivation is now spreading through the two most southern states, either of which contains as much territory as all New England; though as yet far less wealth.

In 1792, the whole exports of the United States was	\$20,000,000
Of which cotton was	23,000
In 1803, it amounted to	8,000,000
In 1816, it amounted to	72,000,000 lbs.
	24,000,000
Exclusive of the quantity manufactured in the United States found in 1815, to be 90,000 bags, or	4,500,000

Two thirds of all the cotton imported into Great Britain is from the United States.

South Carolina alone exported in one year 11,000,000 dollars and supplied a proportion of that exported from Georgia, and from her proximity to the middle states, sent more than her proportion to their manufactories.

Never has there been an article in the annals of commerce, of more consequence, viewed in its relations to agriculture, navigation, manufactories and accommodation. Nor are there any bounds to be set to its extensive uses. It cannot be raised in Europe, and yet it has become of prime necessity there. If it suspends the use of sheep's wool altogether in the warmer latitudes of the old world, it will liberate great tracts of country reserved for seed, and afford to a crowded population the advantages of more extended agriculture. It would be easy to trace the effects of this production of our country, through its consequences upon the condition of man, from the labourer who plants, to the labourer who manufactures and who avails of the economy of its use, till it would appear to be one of the greatest blessings.

Comparing it with Tobacco, if this superfluity could occupy so many hands—employ so many ships—become an article of indispensable use, what may not the commercial interest expect of Cotton, which being adopted into use can never be supplanted—sheep's wool must gradually give place to this cheaper product, and can never resume its ascendancy—it may become dearer—it may be used by the more opulent—but the great mass of mankind will use cotton—already it has assumed a thou-



sand shapes. Soon it will cease to be mixed with wool; and the exterior as well as interior parts of dress will be of this material—and however encouraging the prospect may be for our southern brethren, it is not less so to the navigation of the northern states.

## THE FARMER.

BALTIMORE, FRIDAY, APRIL 21, 1820.

☞ The Revolution in Spain is effected—The constitution of the Cortes of 1812 is established, and a general amnesty proclaimed—the Prisons of the Inquisition are thrown open and their victims released.

### FINE FRUIT.

In proof that the climate and soil, in the neighbourhood of Baltimore, is well adapted to the growth of fine fruit, we are permitted to publish the following extract from a letter, from Benj. Vaughan, Esquire, dated, Hallowell, Maine, May 10th, 1819, to Col. J. S. Smith of this city.

"I have the pleasure to inform, as the work may not have reached you, that the 2nd part of the 3rd Vol. of the transactions of the Horticulture Society of London, published in the present year, has in it the following paragraph, at page 120. "At this meeting, (Dec. 12th, 1817), a large apple, raised in the garden of Mr. Smith, near the city of Baltimore, in America, was exhibited; it had been recently imported, (with others) into Liverpool, by Capt. George Hobson, of the Belvidera of Baltimore; who sent it to Sir Joseph Banks, by whom it was presented to the Society. This apple, of which an engraving accompanies this account, weighed 1 lb. 7½ oz. it measured in circumference 1 foot 2½ inches, and in height as it stood, was four inches; it proved very good, though over ripe; it was very close at the core, and if a good bearer, will deserve general cultivation. The drawing is coloured, and very interesting.—In the lists of presents to the Society, given at the close of part 1st of this volume, we also read, that Wm. Bullock, Esq. F. L. S. gave a model of the Baltimore apple in wax!"

NOTE.—The apple here spoken of, grew on the farm of Robert Smith, Esq. where we are authorized to state, cuttings may be had for grafting.

## To the Cultivators of the Soil.

### THE AMERICAN FARMER.

The first number of the AMERICAN FARMER was issued on the 2d of April, 1819. It may now be announced as an established NATIONAL WORK, adopted to all the varieties of our climate, since many of the most eminent citizens in all the States, contribute by their patronage and their pens, to its circulation and its usefulness. Every subscriber, therefore, plough what soil or breathe in what latitude he may, will find in the Farmer, essays detailing experiment and conveying information suited to his particular condition and pursuits.

To make known all discoveries in the science, and all improvements in the practice of AGRICULTURE and DOMESTIC ECONOMY—and to develop the means of INTERNAL IMPROVEMENTS generally, constitute the chief objects to which the AMERICAN FARMER is devoted. It takes no concern or interest in party politics, nor in the transient occurrences of the day.

The Farmer is published, weekly, on a sheet

the size of a large newspaper, and folded so as to make eight pages—and to admit of being conveniently bound up and preserved in volumes. Each volume will consist of fifty-two numbers, a title page and an index—and numerous ENGRAVINGS to represent new Implements, and approved Systems of Husbandry.

Each number gives a true and accurate statement of the then selling prices of country produce, live stock, and all the principle articles brought for sale in the Baltimore market.

Terms of subscription \$4 per annum to be paid in advance. But for the sum of Five Dollars, the actual receipt of every number is guaranteed.—That is, when numbers fail to come to hand, duplicates shall be sent until every number shall have been received.

As the Editor takes the risk and cost of the mail—should subscription money miscarry, he holds himself, nevertheless, bound to furnish the paper.—To those who may think the price of subscription too high, it may be remarked, that on a comparison of their actual contents, one page of the American Farmer, will be found to contain as much as four pages of the "MEMOIRS OF THE AGRICULTURAL SOCIETY OF PHILADELPHIA," and the four volumes of that patriotic, and exceedingly valuable work, sell for \$12.—Of the quality of its contents the Editor of the Farmer could not speak with propriety, if it did not so happen, that he has little occasion and less leisure to write for it. His agency consists, chiefly, in collecting and arranging the materials. If, however, proof were required of its tendency to promote improvements in every branch of rural economy, by those who may never have seen the work, it would be sufficient to make reference to the first volume, where it will be seen that it contains essays on every department of Husbandry, from the pens and under the proper names of those eminent citizens in the different states, who are most distinguished in the annals of agriculture and other sciences.

All gentlemen who feel an interest in the circulation of a Journal devoted to these objects, and conducted on this plan, are requested to transmit the names of subscribers—but in all cases the money must be remitted before the paper can be sent. It will, however, be returned in any case, where the subscriber, on a view of the paper, not being satisfied, may think proper to return it to the Editor within three weeks.

An allowance of ten per cent. will be made, when claimed, on all monies received for, and remitted to the Editor.

A few of the first volume, either in sheets or well bound, with a copious Index, remain on hand for sale.

Notes of the Banks of North and South Carolina, Georgia and Virginia, generally, will be received at par. From subscribers residing in the states of Ohio and Kentucky, notes of the Bank of Chillicothe will be received at par, and from such subscribers the notes of all other banks, which can be disposed of here at a discount of not more than ten per cent.

☞ All communications to be addressed to

JOHN S. SKINNER,  
Baltimore.

April 3, 1821.

P. S.—For all Editors in the United States, who may have the goodness to give the preceding notice a few weekly insertions, the Editor of the Farmer will be glad to transact any business they may have in Baltimore, or to return their good offices in any other way in his power.

### Present Prices of Country Produce in this Market.

Actual sales of WHEAT—RED, per bushel \$1 to \$1 2 WHITE, do. \$1 5 to \$1 10—CORN, white, 47 to 50 cts.—RYE, 56 cts.—FLOUR, from the wagons, \$4 75.—WHEAT KEY, from do. 31 cts.—HAY, per ton, \$17—STRAW, do. \$10—E. Shore Oats, 38 to 40 cts.—LONDON WHITE LEAD, \$4 25—AMERICAN do. \$3 75—BOILED OIL, \$1 37½ FEATHERS, 50 to 62½.

Virginia TOBACCO, thirteen hogsheads, new crop, sold the present week for \$6 50 to \$6 75—Maryland TOBACCO, broad leaf, wagon, selling from \$10 to \$17—PATUXENT, no sales that we have heard of, \$6 & \$6 50 offered for good quality.—North Carolina Staples, TAR, \$1 50—TURPENTINE, soft \$2 50 to \$2 50—SPIRITS do. 33 cts.—PITCH, \$2 50—ROBIN, \$1 75 to \$2—CORN, 47 cts.—COTTON, Upland, 17 cts.—WHITE BEANS, 80 to 90 cts.—BLACK-EYE PEAS, 65 cts.—PORK, per bbl. \$12 to \$15—BACON, hog round, per lb. 9 to 10 cts.—LARD, 10 to 11 cts.

The prices of marketing, same as last report.

The excellence of this kind of Plough, consists in the length of its mouldboards and handles. The former being longer, admits of its easy entrance into the ground—so much so, as in some instances to make one third difference in the draught; and the hinder part gradually inclining to the right, turns the furrow completely over; and the handles being long, gives the ploughman great power in working through hard and tough grounds.



The Editor has seen this plough at work, which is made and sold by Robert Sinclair, in Pratt Street. For ease, beauty and execution, it is certainly equal to any he ever saw.

PUBLISHED BY JOHN S. SKINNER.